areas of high-quality water and areas of existing contamination. Additional data on land use, including high-density residential development and industrial use, were employed to identify areas where contamination is likely.

County monitoring programs on Cape Cod and in Suffolk County, Long Island, use data from private well testing programs to provide regional information on ambient quality in the shallow aquifer. Each county maintains a computerized data base with more than 5000 private analyses entered as of 1985. The data are useful in correlating land use with watei quality as well as identifying new problems.

Both the Cape Cod and the Suffolk County private well data bases have already identified problem areas where unreported chemical and oil spill* have occurred or septic tanks have caused excessively elevated nitrate levels. The data have been used to make decisions for establishing priorities foi water main extensions and revising land use controls. Investigations triggered by private well analyses have led to the discovery of leaking underground storage tanks in several instances.

Because the Cape Cod and Suffolk County private well data bases are maintained in the county agencies involved in ongoing water quality planning programs, they are effectively utilized in the planning process by these two counties.

Water Extraction and Use Patterns

A key component in making ground water quality decisions is knowledge of the state's ground water withdrawals and their use. This is critical in parts of the country where the ground water is being depleted at a rapid rate. The quality of water is likely to change with the lowering of the watei table, particularly in the arid West. Cones of depression will alter the flow of contaminants. Shallow wells are more likely to be influenced by pollution. Therefore, to get a comprehensive picture for management of ground water quality, a state needs to know the location of water wells, the amount of water being extracted, and for what purpose it is to be used.

Arizona, for example, has a good data base for ground water withdrawal quantities. Considerable work has been done by the USGS in providing data over the years. In the developed areas of the state, depth to ground water is well documented. In 1980, Arizona passed a comprehensive Ground Watei Management Act for the purpose of reducing the overdraft of ground water, Although the act initially addressed water quantity in its first management plan, ground water quality will be a major factor in the second (1990) plan, and management of both quantity and quality will be integrated.

Since 1982, withdrawal wells in Arizona have had to be registered re-